

## CLAIMS

1 A personal alarm system comprising:

5 a personal alarm signalling device adapted to be worn on a user's body comprising a user activatable transceiver means for transmission of an alarm signal, and

10 a user activatable responder device adapted to contact outside help via a telephone network in response to the alarm signal, the responder device being provided locally in the vicinity of the user to thereby reduce the power required for the alarm signalling device to contact the responder device,

15 the responder device being adapted to receive the alarm signal and to transmit a response signal to the transceiver after receipt of the alarm signal to inform the user of the receipt of the alarm signal,

20 the alarm signalling device comprising means for displaying the response signal to the user and interface means for receiving user data,

25 the transceiver means being adapted to transmit the user data to the responder device after receipt of the response signal and to receive responder data from the responder device, the interface means being adapted to provide the responder data to the user.

30 2 An alarm system according to claim 1 characterised in that the interface means comprises a sound receiving member and a sound producing member to provide two way communication via the alarm signalling device.

3 An alarm system according to claim 1 or 2 characterised in that the user data and/or responder data are sound or audio data.

35 4 An alarm system according to claim 3, characterised

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in that the interface means comprises the user display means.

5           An alarm system according to claim 3 or 4,  
5 characterised in that the user display means is adapted to display the responder data.

6           An alarm system according to any of the preceding  
claims, characterised in that the user data comprise the  
10 user's voice and/or data relating to the user's physical condition.

7           An alarm system according to any of preceding  
claims, characterised in that the transceiver means  
15 comprises signal channel selection means for selecting a frequency or channel at which the transceiver means transmits the alarm signal.

8           An alarm system according to claim 7, characterised  
20 in that the responder device comprises responder channel selection means for selecting the channel for receiving the alarm signal.

9           An alarm system according to claim 7 or 8,  
25 characterised in that the responder device is adapted to transmit a selection signal for controlling the signal channel selection means, the transceiver means being adapted to receive a selection signal from the responder device for controlling the signal channel selection means.

30           An alarm system according to claim 9, characterised  
10 in that the responder device is adapted to control the signal channel selection means in response to a reduced signal quality on the selected channel.

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11 An alarm system according to any of claims 8 to 10,  
characterised in that the responder channel selection means  
continuously or periodically transmits a channel monitoring  
signal for monitoring the quality of the transmissions  
5 channel or frequency.

12 An alarm system according to any of the preceding  
claims, characterised in that the user display means  
comprises a visual display member and/or an audible display  
10 member and/or a tactile display member.

13 An alarm system according to any of the preceding  
claims, characterised in that the device comprises a range  
monitoring means for monitoring the range between the alarm  
15 signalling device and the responder device.

14 An alarm system according to claim 13, characterised  
in that the range monitoring means are adapted to activate  
the user display means if the signalling device is out of  
20 the range of the responder device.

15 An alarm system according to claim 14, characterised  
in that the range monitoring means are activatable by the  
user.

25 16 An alarm system according to any of the preceding  
claims, characterised in that the transceiver means is  
adapted to transmit an identification code to identify the  
alarm signalling device from multiple alarm signalling  
30 devices.

17 An alarm system according to any of the preceding  
claims, characterised in that the alarm signalling device  
is adapted to remotely operate devices such as doors and  
35 appliances.

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18        An alarm system according to any of the preceding claims, characterised in that the responder device is adapted to contact outside help such as aid services.

5        19        An alarm system according to claim 18, characterised in that the responder device comprises means for signalling an alarm such as a visual alarm and/or audible alarm.

10       20        An alarm system according to claim 19, characterised in that the alarm signalling means comprises telephone dialling means for contacting outside help such as emergency services and/or telephone services.

15       21        An alarm system according to any of the preceding claims, characterised in that the responder device is connected to the telephone network.

20       22        An alarm system according to any of the preceding claims, characterised in that the responder device comprises telephone answering means for enabling the user to answer calls via the alarm signalling device.

25       23        An alarm system according to any of claims 16 to 22, characterised in that the system comprises one or more responder devices and one or more alarm signalling devices, the responder device signalling an alarm signal which corresponds to the identified signalling device.

30       24        An alarm system according to claim 23, characterised in that the system comprises an alarm procedure storage means for storing alarm procedures for each alarm signalling device, the alarm signalling means signalling an alarm in accordance with the alarm procedure for the identified alarm signalling device.

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25       An alarm system according to any of the preceding claims wherein the system may comprise means for locating the position of the alarm signalling device.

5       26       A method of receiving an alarm signal from a user comprising providing

          a personal alarm system comprising:

          a personal alarm signalling device adapted to be worn on a user's body comprising a user activatable transceiver means for transmission of an alarm signal, and

10           a user activatable responder device adapted to contact outside help via a telephone network in response to the alarm signal, the responder device being provided locally in the vicinity of the user to thereby reduce the

15       power required for the alarm signalling device to contact the responder device,

          the responder device being adapted to receive the alarm signal and to transmit a response signal to the transceiver after receipt of the alarm signal,

20       the alarm signalling device comprising means for displaying the response signal to the user and interface means for receiving user data,

          the transceiver means being adapted to transmit the user data to the responder device after receipt of the response signal and to receive responder data from the responder device, the interface means being adapted to provide the responder data to the user

          the method comprising:

          activating the alarm signalling device,

30       the responder device receiving the alarm signal and transmitting a response signal after receipt of the alarm signal,

          displaying the response signal to the user,

          transmitting the user data to the responder device

35       after receipt of the response signal and receiving

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responder data from the responder device, and  
providing the responder data to the user.

27 A method according to claim 26, characterised in  
that the responder device is adapted to contact outside  
help directly such as aid services.

29 A method according to any of claims 26 to 27,  
characterised in that the user data comprise voice data  
and/or user health data.

30 A method according to any of claims 26 to 29,  
characterised in that the responder means comprises  
dialling means for dialling emergency services.

31 A method according to claim 30, characterised in that  
the dialling means are adapted to continue dialling until  
an emergency service is contacted.

32 A method according to any of claims 26 to 31,  
characterised in that the user communicates with the  
emergency services via the interface means.

33 A method according to any of claims 26 to 32,  
characterised in that the transceiver means comprise signal  
channel selecting means for selecting the frequency or  
channel for transmitting the alarm signal, and the  
responder device comprises responder channel selection  
means for selecting the channel for receiving the alarm  
signal, the responder device controlling the signal channel  
selection means in response to a reduced signal quality  
and/or interference on the selected channel, the method  
comprising the step of selecting a different channel if the  
transmission quality is reduced.

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34 A method according to any of claims 26 to 33,  
characterised in that the responder device continuously or  
periodically transmits a selection signal to monitor the  
transmission quality of the transmission channel or  
5 transmission frequency.

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